SUMMARY

In Fiscal Year (FY) 1999, Science and Technology consists of Pacific Northwest National Laboratory (Pacific Northwest) Waste Management (WBS 1.7.1, Project Baseline Summary [PBS] ST01) and Science and Technologies (WBS 1.7.2, PBS ST02). PBS ST02 is U.S. Department of Energy-Headquarters (DOE-HQ) work scope and is currently unfunded.

Public Meetings on the budget were completed with no impacts to the Pacific Northwest Waste Management & Operational Compliance Program. The PBS for the Waste Management Program was then updated for the FY 2001 budget/planning cycle. A draft Part A of the PBS reflects the compliance baseline ($19,053K) for the program and was submitted on March 29, 1999. A draft Part B reflects the target funding case ($16,074K) and will be submitted for redlining on April 6, 1999. The final PBSs are due to DOE-HQ on April 15, 1999. To date, the PBS process has been very challenging because of the mandated use of new data collection systems that have not been completed and debugged. However, the concept to use automatic feeds from established databases (e.g., the Hanford Site Technical Database, the Integrated Priority List Module, and the Central Milestone Module) is worthwhile to assure traceability and consistency of information.

The Waste Management & Operational Compliance Program's baseline was changed to reflect the transition of the 320, 325, 326, 329, and 331 Buildings to EM-60 (DOE Facilities Stabilization Program) from FY 2046 to the end of FY 2030, constituting the end point of this Environmental Management (EM) project. Publication of 10 CFR 834, Radiation Protection of the Public and the Environment, has been delayed several years and it's future is uncertain. In response to these circumstances, Pacific Northwest activities to gain compliance with the proposed regulation for environmental radiological protection were deleted from the baseline as directed by Science and Technology Operations ([STO] Division of the U.S. Department of Energy [DOE]).

A task management plan for obtaining and analyzing a sample of a heel discovered in the bowling ball cask in the High-Level Radiochemistry Facility (325-A Building) has been prepared and approved under the Legacy Waste and Contamination Project. The task management plan was used in the preparation of a change request for adding this activity to the FY 1999 work scope. Fabrication of the sampling device has been completed, and preparations for collecting the sample are ongoing. A suitable boroscope to view the inside of the cask was located. Pacific Northwest staff discovered the heel during routine operational monitoring in late September 1998. This heel may be regulated waste because of its historical use as a conduit for liquid waste transfer to the 300 Area radioactive liquid waste system. The contents of the cask are presently being managed as waste, pending analysis pursuant to Ecology Technical Information Memorandum 92-5.

Within the Environmental Compliance and Technical Support Services Project, Resource Conservation and Recovery Act (RCRA) staff provided limited support to the development of the DOE-RL response to the multimedia inspection RCRA complaint. The response was sent to

the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) on March 22, 1999. (This item, formerly listed as a significant issue, is now closed.)

National Environmental Policy Act (NEPA) compliance support has been provided to the Environmental Technology Division (ETD) researchers who are attempting to establish a Field Research Center at Hanford under the DOE Office of Science, Natural and Accelerated Bioremediation Research (NABIR) Program. After working with the Environmental Restoration Contractor (ERC), the proposed site for the Field Research Center was selected at the 100-H Area. One of the first deliverables for the technical proposal is an environmental analysis of the proposed Field Research Center site, which will support the development of a program-level Environmental Assessment at DOE-HQ to site one or more Field Research Centers within the DOE complex. The environmental analysis must be delivered to the Office of Science by April 13 in order for the Hanford Site to be considered for the Field Research Center.

Four Pollution Prevention Opportunity Assessments (P2OAs) have been identified and initiated in the following areas: the Molecular Biosciences Department, Physical Organic and Laser Spectroscopy in the Physical Science Laboratory, high performance liquid chromatography alternatives, and the use of mercury thermometers. A schedule has been set for the P2OAs for the Molecular Biosciences Department and the Physical Organic and Laser Spectroscopy, and schedules for the other two P2OAs are being developed.

The 1996-1998 implementation successes for the Pacific Northwest Pollution Prevention (P2) Program were summarized. From annual reports, staff calculated that from calendar year (CY) 1996 through CY 1998, the P2 Program has saved Pacific Northwest $1.9 million in avoided waste disposal costs, avoided purchasing costs, and labor. Three Return on Investment (ROI) proposals were revised and submitted to the DOE-RL Waste Minimization Review Team. The three projects require combined funding of $188,000 with an average return on investment of 700 percent. Staff also provided information for the development of a joint ROI project with Bechtel Hanford, Inc. (BHI) for the release and reuse of lead.

In February, DOE Order 435.1, Radioactive Waste Management, was sent to the field offices for concurrence. The order is expected to be issued in April. Pacific Northwest is participating in the sitewide implementation group that is interpreting the revised rules and identifying impacts created by the substantial revisions. The majority of impacts are at operations (i.e., high-level waste, tanks, and burial ground operations) run by Hanford Site contractors other than Pacific Northwest.

Transition of waste disposal summaries to profiles as required by Waste Management Hanford's (WMH's) new Waste Acceptance Criteria continued, although the level of effort diminished because most profiles have been completed and are either approved, or on schedule for approval. Several profiles were approved during the first week of March ahead of schedule, with the remaining large routine streams approved by March 19, 1999 as planned. Several smaller stream profiles have also been approved ahead of the April 9, 1999 due date; the remaining smaller routine streams are on schedule for approval. All nonroutine, specialized profiles are scheduled for approval by April 30, 1999. With the continued high rates of low-level waste (LLW)

generation and approved profiles, Pacific Northwest will ship more LLW in the coming months than in all of FY 1998. Pacific Northwest and WMH have taken this transition as an opportunity to improve upon the level of formality and documentation of Pacific Northwest's radioactive waste characterization practices. In addition, the same improvements will help to redress many of the issues with Pacific Northwest's wastes that have been raised by verification, portfolio approval, and Performance Evaluation System (PES) problems.

Submitted waste items were processed, packaged, and shipped (only hazardous waste was shipped) for treatment and disposal or long-term storage as scheduled. Of the 154 hazardous waste items verified by Pacific Northwest staff, five failed internal verification and were returned to the generator for additional characterization. None of radioactive mixed waste containers failed internal verification. There were no failures of Pacific Northwest radioactive waste during WMH verification activities.

Within the Effluent Management Project, Pacific Northwest personnel collected all required air and water samples during the month of March and confirmed that all routine effluent discharges from Pacific Northwest operations reported to date are below historical release levels and compliant with existing state and federal permits.

Within the Facility Surveillance and Maintenance Project, the monthly criticality safety inspection (performed by the Criticality Safety Reviewer) and the biannual Criticality Safety Audit (performed by staff from Facility Safety) were conducted at the same time. Except for a few minor issues (inconsistencies between Safeguards labels and Criticality Safety inventories, and incorrect Criticality Safety Specification revision numbers on a few Criticality Safety Limit signs), no observations or findings were identified during the Criticality Safety Audit. This reflects a significant improvement from the previous Criticality Safety Audit that documented seven observations.

The construction activities for the 325 Building RLW Load Out Modifications and 204AR Building Modifications Projects are basically complete. The 204AR project has one exception: the operating staff found that one switch was wired backwards. The switch will be replaced during the installation of the backflow preventor, which is not in the scope of work for this project. This will reduce the cost impact to the project (saving about $3K) by not requiring an additional Job Planning Package to be written by Lockheed Martin Hanford Corporation (LMHC) and Fluor Daniel Northwest, Inc. (FDNW). The 325 project is complete except for the final three hookups to the existing RLW lines and installation of the cover blocks over the tank. These activities are required to be completed once the Pacific Northwest Readiness Assessment is completed and DOE-RL has given the approval to operate the RLW system. One additional activity remaining is the completion of the Pacific Northwest National Laboratory’s Readiness Assessment that has been delayed by eight months. To accomplish this assessment, one aspect of the assessment requires the use of process water to unload the LR56H at 204 AR. To utilize the process water system at 204 AR, the Authorization Basis for the Facility had to be modified and a new backflow preventor installed. These activities are not part of the 325 Building RLW Load Out Modifications or the 204 AR Modification projects and have greatly contributed to the eight month delay. The Authorization Basis Package was submitted and rejected in December. The request for modification has been revised and re-submitted by LMHC for approval. The review

and approval of the revised document should be completed and transmitted to LMHC by the end of April. Once the Authorization Basis is approved, the subsequent modifications to the 204 AR Facility are estimated to take a month to complete. Then the final functional test, tentatively scheduled for May, can be completed by LMHC. These continued delays have impacted project costs and remaining within the current authorized funding level for the Readiness Assessment is in jeopardy. The project team is reviewing alternative funding possibilities with LMHC, Pacific Northwest Management and DOE RL. A change request is forthcoming to allocate additional funding to accomplish the remaining activities.

Within the Essential ES&H Drawings Project, the 325 Building water piping drawings are now about ten weeks behind schedule because of construction in the office space occupied by project staff. To offset the delay in starting the water piping drawings, the 325 Building air piping drawings were started early and are now nearing completion. The overall affect is that the program is remaining close to the original schedule and close to the budget.

Design activities for the High Dose Waste Disposal task remained on hold pending the completion of an evaluation of options to incorporate Waste Management Federal Services, Inc., Northwest Operations (WMNW) recommendations to revise the primary container design for the purpose of simplifying Safety Analysis Report for Packaging (SARP) preparation and approval activities. Concepts to change the design of the primary container to meet boiler pressure vessel requirements are being considered. Current task milestones should not be affected, provided design evaluations are completed and design activities are resumed by late April.

Fiscal year-to-date milestone performance (Enforceable Agreement [EA], DOE-HQ, Field Office, and DOE-RL) shows that five of six milestones (83 percent) were completed on or ahead of schedule. One milestone (17 percent) was overdue as of March 31, 1999. A change request is in process to delete this milestone. Details can be found in the Milestone Exception Report on page I: 6-1.

ACCOMPLISHMENTS

- The February Discharge Monitoring Report (DMR) for the 331 Building was submitted five days early. (Planned)

- The February DMR for the EMSL was submitted on schedule. (Planned)

COST PERFORMANCE ($0.8M)

	BCWP	ACWP	VARIANCE
Science & Technology	$7.2	$6.4	$0.8

There is a $0.8 million (eleven percent) favorable cost variance on the Program in March.

SCHEDULE PERFORMANCE (-$0.6M)

	BCWP	BCWS	VARIANCE
Science &Technology	$7.2	$7.8	-$0.6

There is a $0.6 million (eight percent) unfavorable schedule variance on the Program, which is not significant. Approval and implementation of a change request caused this substantial reduction from the February figure.

ISSUES

1) Bowling Ball Cask. During routine operational monitoring in late September 1998, Pacific Northwest staff discovered that the bowling ball cask in the High-Level Radiochemistry Facility (325-A Building) contains a significant heel. This heel may be regulated waste because of its historical use as a conduit for liquid waste transfer to the 300 Area radioactive liquid waste system.

Strategy/Status: The contents of the cask are presently being managed as waste, pending analysis pursuant to Ecology Technical Information Memorandum 92-5. A task management plan for obtaining and analyzing a sample of the heel has been prepared under the Legacy Waste and Contamination Project.

2) New DOE Order Distributed for Concurrence. In February, DOE Order 435.1 was sent to the field offices for concurrence. The order is expected to be issued in April.

Strategy/Status: Pacific Northwest is participating in the sitewide implementation group to identify impacts. The majority of impacts are at operations (i.e., high-level waste, tanks, and burial ground operations) run by Hanford Site contractors other than Pacific Northwest.